420-6574-01UK

REV 0

SERVICE MANUAL

SEGA

MARINE FISHING UPRIGHT

Naomi cabinet version

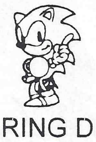
STOP

IMPORTANT!

Before using this product, read this SERVICE MANUAL carefully to understand the contents stated herein. After reading this manual, be sure to keep it available nearby the product or somewhere convenient in order to be able to refer to it whenever necessary.

Manufactured in the UK by

SEGA



MANUFACTURING DIVISION (UK)

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1. BEFORE USING THIS PRODUCT

To ensure the safe usage of the product, be sure to read the following before using the product. The following instructions are intended for the use of QUALIFIED SERVICE PERSONNEL ONLY. After carefully reading and sufficiently understanding the instructions should any activity be carried out on the product. Only qualified service personnel should carry out maintenance on the product.

Terms such as WARNING!, CAUTION, and IMPORTANT! Are used where an explanation is given which requires special attention, depending on the potential risk. SEGA is not responsible for injury or damage caused by use in a manner contrary to the instructions stated in this document. In order to prevent accidents warning stickers and printed instructions are applied in the places where a potentially hazardous situation relating to the product could arise. Be sure to comply with these warnings.

WARNING!

Indicates that mishandling the product by disregarding this warning will cause a potentially hazardous situation which can result in death or serious injury.

CAUTION!

Indicates that mishandling the product by disregarding this caution will cause a potentially hazardous situation which can result in personal injury and or material damage.

STOP

IMPORTANT!

This is cautionary information which should be complied with when handling the product. Indicates that mishandling the product by disregarding this will cause a potentially hazardous situation which may not result in personal injury but could damage the product.

Be sure to turn off the power and disconnect from the mains supply before working on the machine.

Ensure that the correct fuse(s) is fitted to the machine.

Details of the correct fusing of the machine are enclosed in the Service Manual.

Ensure that only qualified Service Engineers perform any maintenance work on the machine.

Specification changes, removal of equipment, conversion and/or addition, not designated by SEGA are not permitted and will invalidate this product's CE conformity.

The parts of the product also include any warning labels or safety covers for personal protection etc. A potential hazard will be created if the machine is operated while any parts have been removed. Should any doors, lids or protective covers be damaged or lost, do not operate the product. SEGA is not liable in any whatsoever for any injury and/or damage caused by specification changes not designated by SEGA.

Before installing the product, check for the Electrical Specification Sticker. SEGA products have a sticker on which the electrical specifications are detailed. Ensure that the product is compatible with the power supply voltage and frequency requirements of the location in which the machine is to be installed.

Install and operate the machine only in places where appropriate lighting is available, allowing warning stickers to be clearly read.

To ensure maximum safety for both customers and operators, stickers and printed instructions describing potentially hazardous situations are applied to places where accidents could occur. Ensure that where the product is operated has sufficient lighting to allow any warnings to be read. If any sticker or printed warning is removed or defaced, do not operate the machine, until it has been replaced by an identical item.

When handling the monitor, be very careful. (Applies only to product with monitor)

Some of the monitor (TV) parts are subject to high tension voltage. Even after turning off the power some components are still occasionally subject to high tension voltage. Monitor repair and replacement should be performed by qualified service engineers only.

In cases where commercially available monitors and printers are used only the contents relating to this product are stated in this manual. Some commercially available equipment has functions and reactions not stated in this manual. Read this manual in conjunction with the specific manual of such equipment.

Descriptions contained herein may be subject to change without prior notification.

The contents described herein are fully prepared with due care. However, should any question arise or errors be found please contact SEGA.

1.1 INSPECTIONS IMMEDIATELY AFTER TRANSPORTING THE PRODUCT TO THE LOCATION

STOP IMPORTANT!

- Inspection should only be carried out by QUALIFIED SERVICE PERSONNEL.

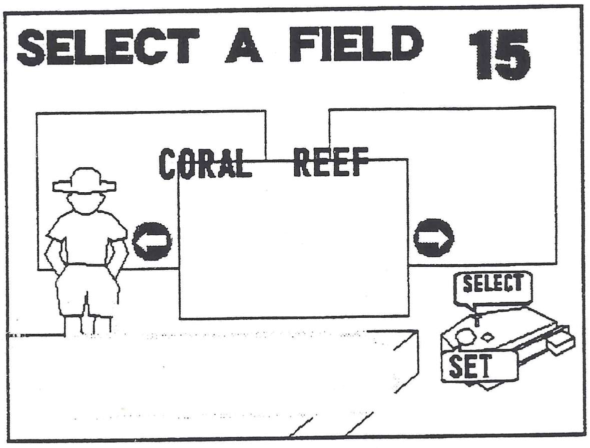
Normally, at the time of shipment, SEGA products are in a state to allowing usage immediately after transporting to the location. Nevertheless, an irregular situation may arise during transportation preventing this. Before turning on the power, check the following points to ensure that the product has been transported safely.

- Are then any dented parts or defects (cuts, etc.) on the external surfaces of the product.?
- Are castors and leg adjusters present and undamaged?
- Do the power supply voltage and frequency requirements meet with the local supply?
- Are all wiring connectors correctly and securely connected? Unless connected in the correct direction, connector connections cannot be made successfully. Do not insert connectors forcibly.
- Are all IC's of each IC BD firmly inserted?
- Does the power cord have any cuts or dents?
- Do fuses meet the specified rating?
- Are such units such as monitors, control equipment, IC BD, etc. firmly secured?
- Are all earth wires connected?
- Are all accessories available?
- Can all doors and lids be opened with the accessory keys and/or tools?

4. HOW TO PLAY

1. Insert coins to gain credits (maximum of 9 credits - any further coins will not receive credits). The display changes from "INSERT COINS" to "PUSH START" to indicate that the game is ready to play.
2. Push the START/CAST BUTTON. The screen will change to show the SELECT A FIELD screen.
3. Select the field or stage you want to play. When selecting FIELD, LURE or CAST SPOT, use the STICK on the rod controller to select and confirm with the START/CAST button.

- **Selecting a Field**



Features of each stage

CORAL REEF:

Shows a tropical sea with extended beautiful coral reefs.

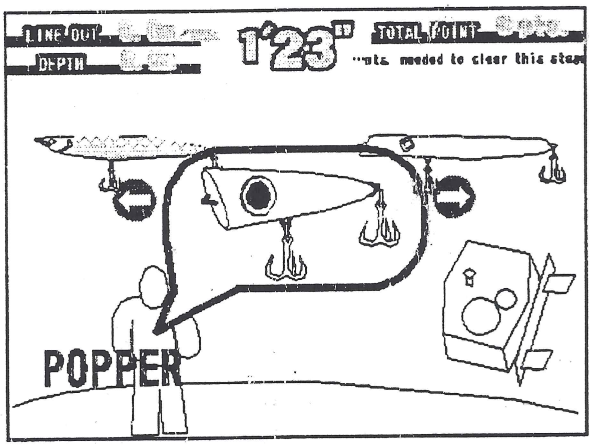
THE OFFING:

Shows a view of the offing with deep-sea fisn.

SHALLOW:

Shows a sea resort with sand beaches.

- **Selecting a Lure**



You can only change a lure when selecting a cast spot. Use the STICK to select a lure, and press the LURE button to activate the selected lure.

The allocated game time decreases while in this stage, so be quick to choose.

- **Selecting a Cast Spot**

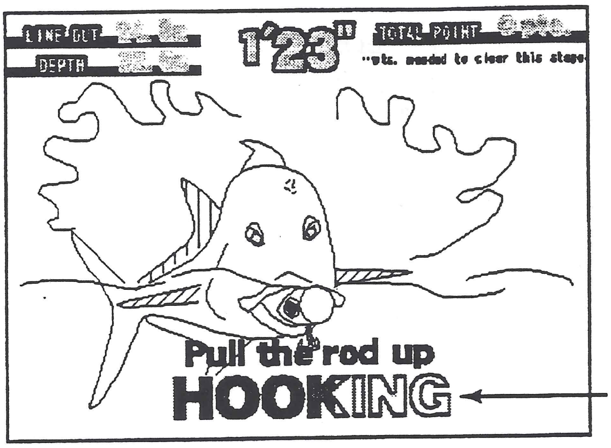
Move the STICK to 'aim' your cast. Press CAST to confirm, bearing in mind the water currents will affect your target.

- **Operating a Lure**

Operate the Rod Controller to lure and reel in fish. Your lure action is rated and a message will appear on the screen. These vary between "Great action!" and "You can do better!" and are linked to your chances of getting a bite.

- **Hooking up a fish**

When a fish bites the lure, operate the rod and reel to hook the fish.

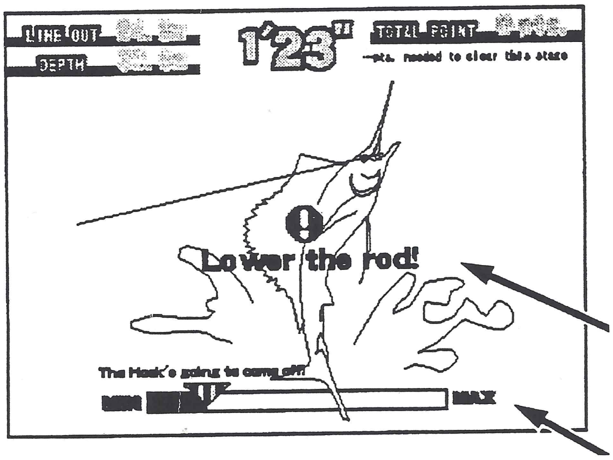


Hookup Meter

This displays if your hookup action is correct. When the HOOKING becomes complete, you can proceed to reeling the fish in.

The fish may release the lure and escape if the hookup action is incorrect.

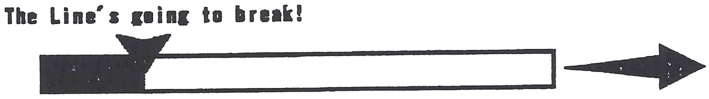
- **Reeling fish in**



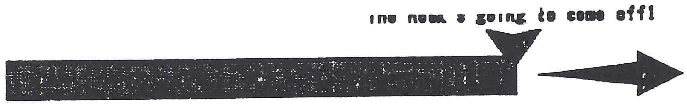
Operate the rod while paying attention to the tension meter on the screen. Also move the rod in the opposite direction to the fish' travel, to avoid the length of line increasing (displayed on the LINE OUT reading on the screen).

Rod Direction instruction

Tension Meter

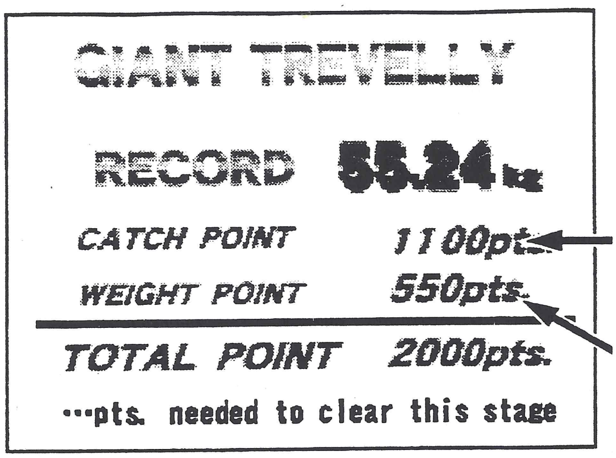


The hook may come off if the line is tensed too low.



The line may break if the line is tensed too high.

- **Landing a Fish**



When the LINE OUT display reaches zero, the fish is automatically landed. Then the screen shows the name and weight of the fish, as well as the catch and weight points awarded.

Catch Points: Varies depending on the difficulty rating of the fish, with more points awarded for difficult fish.

Weight Points: More points awarded for heavy fish.

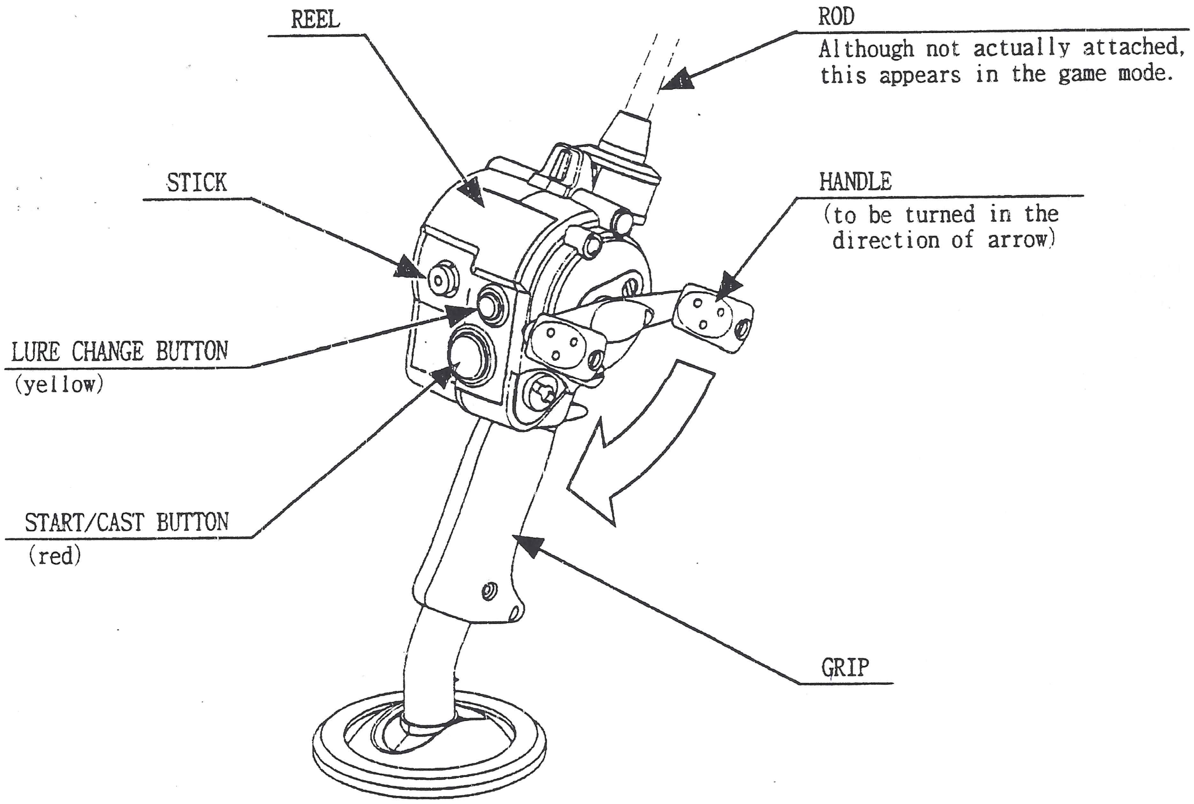
Repeat these procedures until the TOTAL POINTS equal the target for that stage (the points required are displayed at the bottom of the LANDING A FISH stage) or the countdown time reaches zero.

- **Game Over/Continue**

When the countdown time reaches zero, the game is over. If you select CONTINUE you can resume the game from when the countdown ran out. If you choose not to continue, you can register your name if the score is high enough.

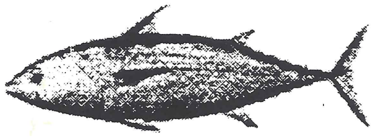
4.1 OPERATING THE ROD CONTROLLER

This game employs an exclusive controller inclusive of the Game Start button.

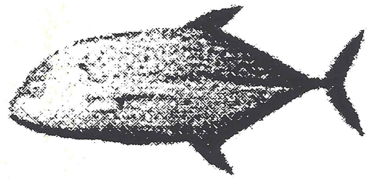


4.2 AVAILABLE FISH WITH DIFFICULTY LEVEL

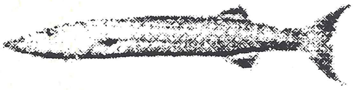
Fish of CORAL REEF



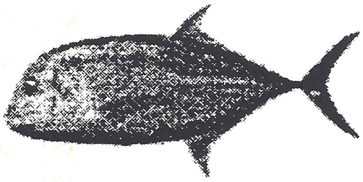
Skipjack Tuna: Easy



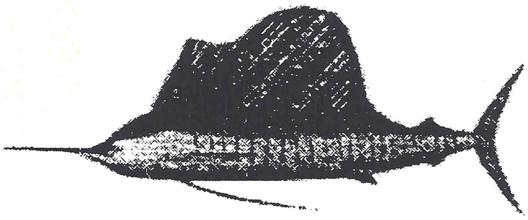
Bluefin Trevally: Medium



Great Barracuda: Medium

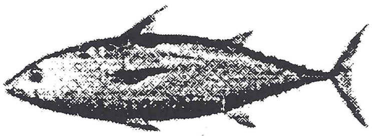


Giant Trevally: Difficult

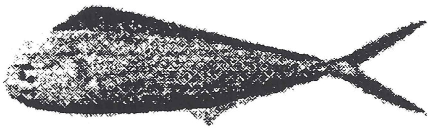


Sailfish: Very Difficult

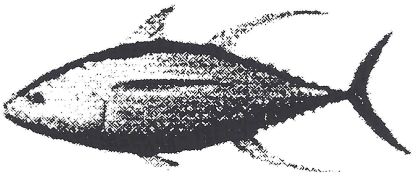
Fish of THE OFFING



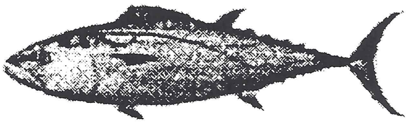
Skipjack Tuna: Easy



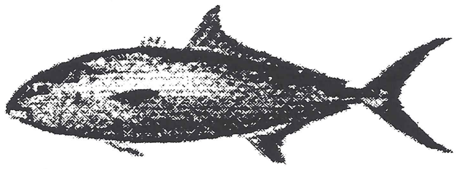
Dolphin Fish: Medium



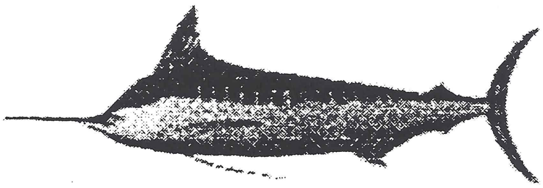
Yellowfin Tuna: Slightly Difficult



Dogtooth Tuna: Difficult

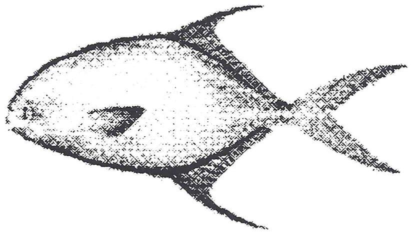


Amberjack: Difficult

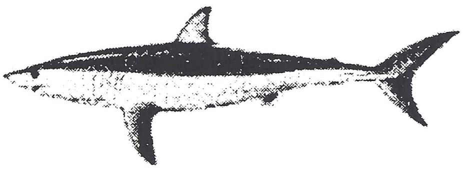


Blue Marlin: Very Difficult

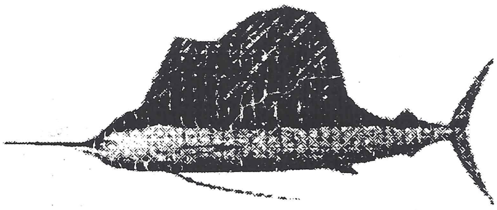
Fish of the SHALLOW



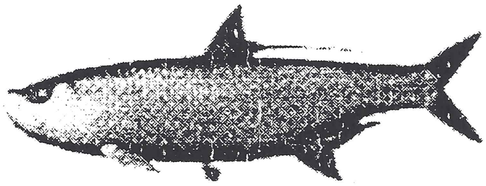
Permit: Medium



Shortfin Mako: Difficult



Sailfish: Very Difficult



Tarpon: Very Difficult

Fishing Hints:

- Selection of the correct Lure and action varies from fish to fish; try combinations of lure, action and fish for best results.
- Habitat varies for each fish. Try different cast spots to detect its habitat.
- To hookup a fish earlier, move the rod in the opposite direction of the fish's travel.
- Don't reel the line vigorously when it is tensed tightly by the fish, instead reel it when under little tension.
- Effective reeling-in action is largely dependent on the lure selected. Good practice common to all lures is to hold the rod in its forward position, and jerk the fish repeatedly and rhythmically to reel in quickly.

Hidden Features:

- You can obtain a 10 second bonus in the SHALLOW stage by hitting a floating coconut when casting.
- A 10 second bonus can also be obtained in the OFFING stage by hitting a floating bottle while casting.
- To obtain a 10 second bonus (and see a UFO!) in the final BIG ONE'S HANGOUT stage, you must keep a spot around a lighthouse (selected as a cast spot) for two seconds.

5. TEST MODE

5.1 SYSTEM MENU

STOP **IMPORTANT!**	• When settings are changed in SYSTEM ASSIGNMENTS, COIN ASSIGNMENTS, and GAME ASSIGNMENTS of GAME TEST MODE, be sure to exit from the test mode of SYSTEM MENU screen. The contents of setting changes are stored in the IC on the BOARD when exiting from the Test Mode. If the power is turned off in the Test Mode (before exiting), the contents of setting changes are ineffective. In this case, the settings remain unchanged.

This test mode mainly allows the IC Board to be checked for accurate functioning, monitor colour adjustment, as well as COIN ASSIGNMENTS AND GAME ASSIGNMENTS to be adjusted.

1. After turning power on, press the TEST button to have the following test item menu displayed.

A. MENU MODE

```
        SYSTEM MENU

        RAM TEST
        JVS TEST
        SOUND TEST
        C.R.T. TEST
        SYSTEM ASSIGNMENTS
        COIN ASSIGNMENTS
        BOOKKEEPING
        BACKUP DATA CLEAR
        CLOCK SETTING

        ROM BOARD TEST
     -> GAME TEST MODE
   [XXXXXXXXXXXXXX]

        EXIT

   SELECT WITH SERVICE BUTTON
              AND
      PRESS TEST BUTTON
```

SYSTEM TEST MODE MENU

```
   SEGA MARINE FISHING TEST MENU

 ->INPUT TEST
   OUTPUT TEST
   SOUND TEST
   GAME ASSIGNMENTS
   VOLUME SETTING
   BOOKKEEPING
   BACKUP DATA CLEAR
   EXIT

     SELECT WITH SERVICE BUTTON
     AND PRESS TEST BUTTON
```

GAME TEST MODE MENU

2. Press the SERVICE button to move the arrow to the desired item. Press TEST to confirm.

3. Move the arrow to GAME TEST MODE and press TEST to display the GAME TEST MENU peculiar to SEGA MARINE FISHING. See the next page onward.

4. Upon finishing the test, select EXIT to return to the Game mode.

For detailed explanations as regards the SYSTEM TEST MODE, refer to NAOMI SERVICE MANUAL (420-6455-01UK).

5.2 GAME TEST MODE

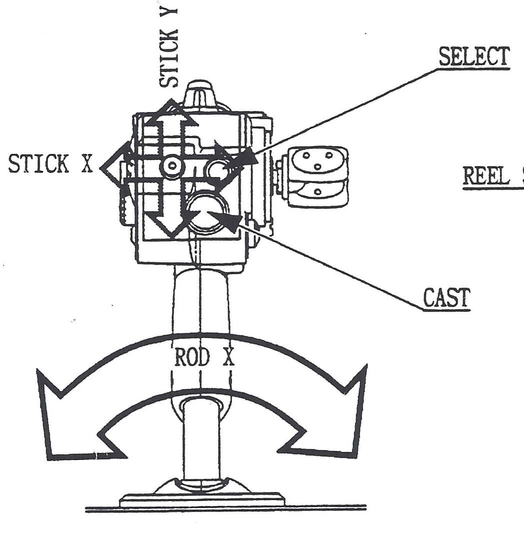
The INPUT TEST screen allows the functionality of each switch and potentiometer (volume). Actuate each switch detailed on the screen (put coins through the validator to check coin chute inputs), noting whether the ON/OFF status on the screen changes correspondingly.

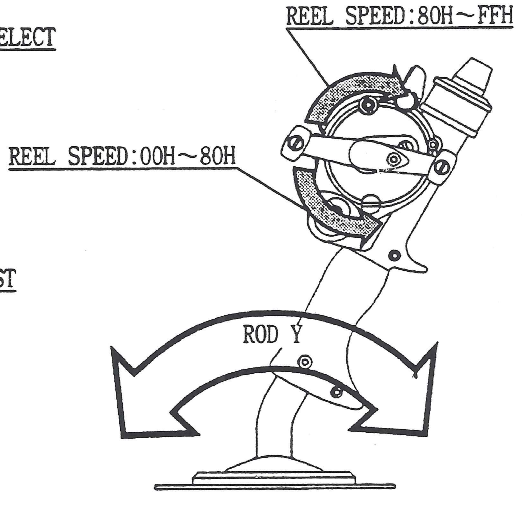
Operate each volume or encoder, observing the hexadecimal readouts to ascertain correct operation.

5.2.1 INPUT TEST

```
            INPUT TEST

        STICK X= 7DH
        STICK Y= 7DH
        REEL SPEED=7FH
        ROD X = 7BH
        ROD Y = 4EH
        CAST  = OFF
        LURE  = OFF
        TEST =      OFF
        SERVICE =   OFF
        COIN CHUTE #1 = OFF
        COIN CHUTE #2 = OFF

     PRESS TEST AND
   SERVICE BUTTON TO EXIT
```

Press SERVICE Button and TEST Button simultaneously to return to the GAME TEST MENU.





5.2.2 OUTPUT TEST

```
          OUTPUT TEST


       ->MOTOR        OFF
         CLUTCH       OFF
         REEL BRAKE OFF
         EXIT




      SELECT WITH SERVICE BUTTON
        AND PRESS TEST BUTTON
```

Test the game board outputs using this function. Use the SERVICE button to select a test parameter, and press the TEST button to perform the selected output test.

Select EXIT and press the TEST Button to return to the GAME TEST MENU.

5.2.3 SOUND TEST

```
SOUND TEST

NO.000

SELECT WITH SERVICE BUTTON
PRESS TEST BUTTON TO EXIT
```

In this Test, the sound and BGM (background music) can be checked. Cycle through the effects by pressing the SERVICE Button, and press the TEST button to EXIT and return to the GAME TEST MENU.

5.2.4 GAME ASSIGNMENTS

```
GAME ASSIGNMENTS

->LEVEL            [ NORMAL ]
  TIME               3'00"
  CLEAR POINT          +0
  CONTINUE TIME      1'00"
  MEASUREMENT      [ METRIC ]
  TIMER             NORMAL
  CABINET TYPE      [STD]
  EXIT

SELECT WITH SERVICE BUTTON
AND PRESS TEST BUTTON
```

Allows adjustment of game difficulty.

Press the SERVICE button to move the cursor to the desired item.

Press the TEST button to change the setting.

When the desired settings have been chosen, select EXIT.

Standard factory settings are shown in **bold** type.

LEVEL

(VERY EASY, EASY, **NORMAL**, HARD, VERY HARD)

Set the game difficulty.

TIME

Set the play time from 1'00" to 4'00". The standard setting is **2'00"**.

CLEAR POINT

Set the point target (clearing point) from –500 to +1000. Press the TEST button to cycle through the settings in 100 point increments. The standard setting is **+0**.

CONTINUE TIME

Set the Continue Time between 1'00" and 4'00". Press the TEST button to cycle through the settings in 10" increments. The standard setting is **1'00"**.

MEASUREMENT

Set the units used in the game as follows:

- **METRIC**: Kilograms and metres.
- ENGLISH: Pounds and Yards.

TIMER

Set the time-counting speed at either FAST or **NORMAL**.

CABINET TYPE

This product fixes this setting at **STD**.

5.2.5 VOLUME SETTING

IMPORTANT!	• When setting the volume, use care not to turn the Reel when saving the setting (EXIT WITH SAVE). If the Reel is revolving when the setting is saved, the on-screen Reel will turn during the game while the control Reel is stationary.

Various volume settings can be made. When a volume is replaced, or gear mesh adjusted, the volume value must be set in this mode. Ensure that the MAX value is under E0H and the MIN value is over 20H.

```
                VOLUME SETTING

                   MIN     NOW     MAX
        ROD X    :3FH  —  7CH  —  B4H
        ROD Y    :3CH  —  68H  —  AEH
        STICK X  :57H  -  89H  -  9FH
        STICK Y  :5EH  -  83H  -  A2H
        REEL     :   NEUTRAL(80H)


                ->EXIT WITH SAVE
                  EXIT WITHOUT SAVE




        SELECT WITH SERVICE BUTTON
          AND PRESS TEST BUTTON
```

Set the volume value by storing the maximum and minimum values. The hexadecimal value in parentheses is the one currently stored. Executing EXIT WITH SAVE stores the value shown to the left of the parentheses.

For setting ROD X and ROD Y, hold the Rod at the point of full travel and describe a complete circle, always at full travel. To set STICK X and STICK Y, use a similar motion on the Stick to describe its full range.

Select EXIT WITH SAVE by using the SERVICE button and press TEST to store the new results and return to the menu mode.

Select EXIT WITHOUT SAVE to return to the menu mode without changing the values.

5.2.6 BOOKKEEPING

```
BOOKKEEPING PAGE 1/2

NUMBER OF GAMES        0
PLAY TIME        -D—H—M—S
AVERAGE TIME      —'—"
LONGEST TIME      —'—"
SHORTEST TIME     —'—"


PRESS TEST BUTTON TO CONTINUE
```

The BOOKKEEPING screen consists of two pages to check the playing time data. Press TEST in the first screen to access the second.

Use the first page to determine a difficulty level.

```
BOOKKEEPING PAGE 2/2

0'00" ~ 0'29"  -
0'30" ~ 0'59"  -
1'00" ~ 1'29"  -
1'30" ~ 1'59"  -
2'00" ~ 2'29"  -
2'30" ~ 2'59"  -
3'00" ~ 3'29"  -
3'30" ~ 3'59"  -
4'00" ~ 4'29"  -
4'30" ~ 4'59"  -
5'00" ~ 5'29"  -
5'30" ~ 5'59"  -
6'00" ~ 6'29"  -
6'30" ~ 6'59"  -
7'00" ~ 7'29"  -
7'30" ~ 7'59"  -
8'00" ~ 8'29"  -
8'30" ~ 8'59"  -
9'00" ~ 9'29"  -
9'30" ~ 9'59"  -
OVER   10'00"  -

PRESS TEST BUTTON TO EXIT
```

The second page shows the frequency of plays against playing time.

5.2.7 BACKUP DATA CLEAR

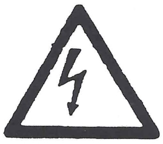
```
BACKUP DATA CLEAR


    →YES(CLEAR) COMPLETED
     NO(CANCEL)


SELECT WITH SERVICE BUTTON
  AND PRESS TEST BUTTON
```

This allows the contents of [BOOKKEEPING] to be cleared.

When clearing, use the SERVICE Button to bring the arrow to YES and press the TEST Button. When the data has been cleared, COMPLETED is displayed.

When not clearing, bring the arrow to "NO (CANCEL)" and press the TEST Button to return to the MENU mode with data not cleared.

6. CONTROL PANEL



WARNING!

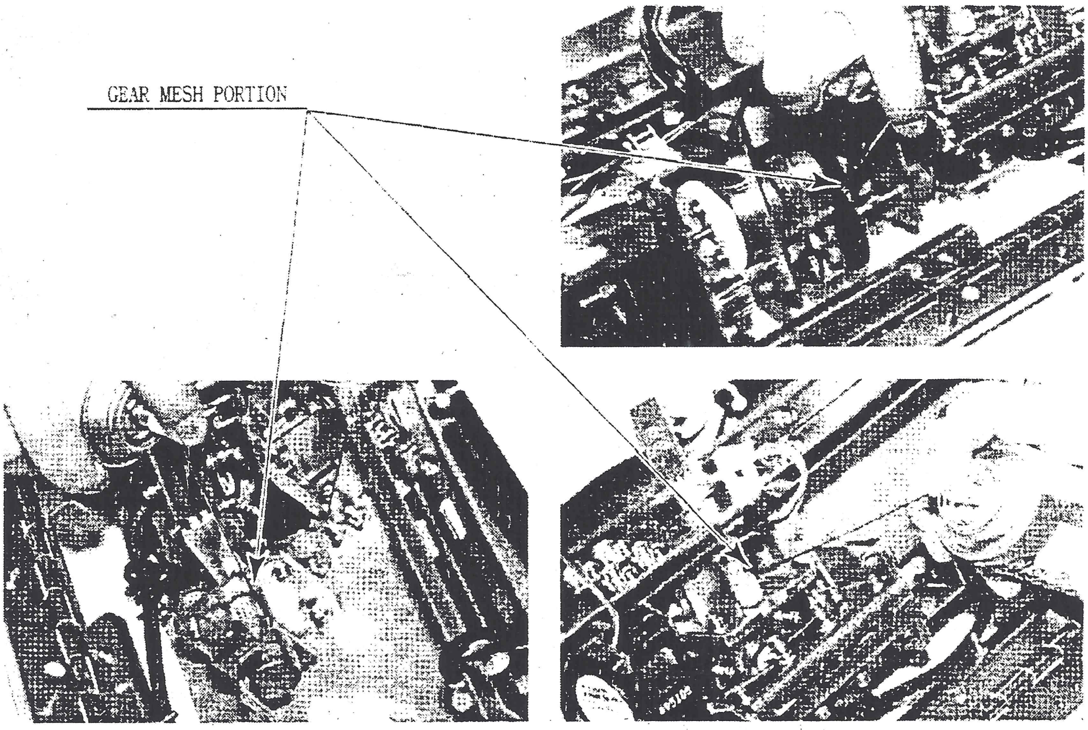
- This operation should be carried out by QUALIFIED SERVICE PERSONNEL only.
- Be sure that the machine is not connected to the mains supply before attempting this operation.
- Ensure any wiring is not damaged as this may cause electric shock or malfunction.

CAUTION!

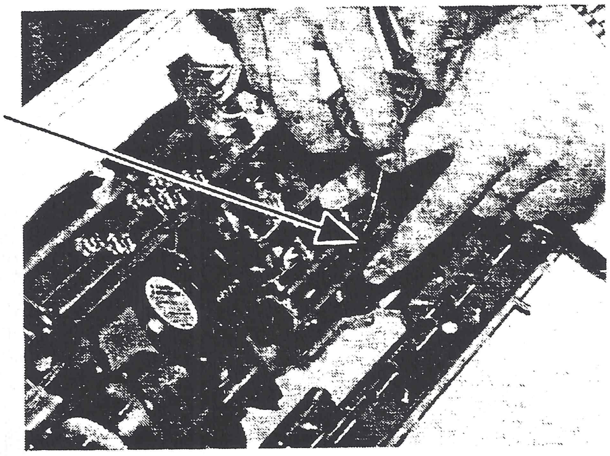
- Use care not to exert excessive load or impact to the parts and Control Panel.
- Use care when handling plastic components .

6.1 GREASING

Open the Control Panel and grease the mechanisms shown on a monthly basis using a proprietary synthetic lubricant. See the Naomi Cabinet manual for further information.



Insert the Spray Grease nozzle to the inside of the guide plate and apply grease to the sliding portions

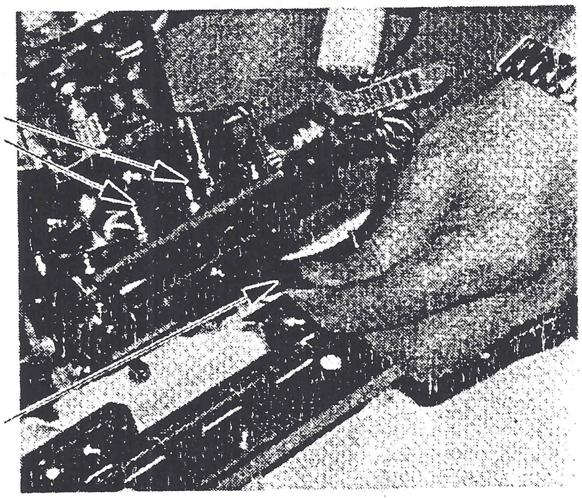


6.2 REPLACING THE EXTENSION SPRING

If the Rod fails to return to the centre position when released, the cause is likely to be failure or stretching of the EXTENSION and TORSION SPRINGS. To replace the EXTENSION SPRING, you will require a 5mm spanner, narrow edged flat blade screwdriver, and a Phillips screwdriver for M3/M4 screws.

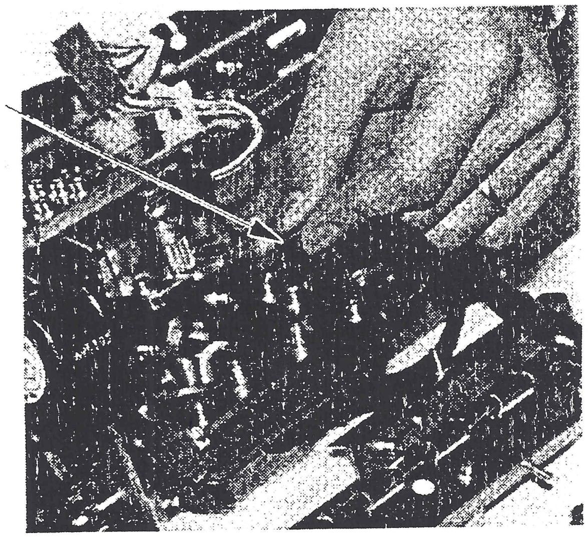
1. Turn off the power and open the panel.

SCREW (2)
M3x6 w/flat and spring washers

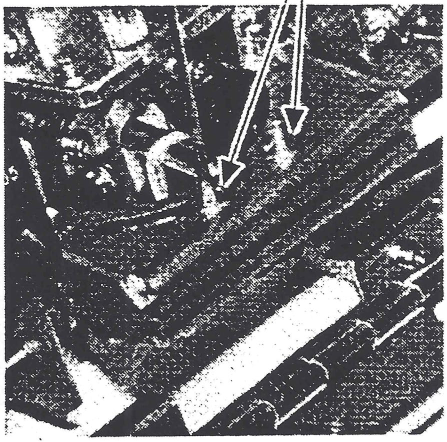


2. By securing the pin head with the spanner, remove the two screws with the screwdriver and remove the spring.

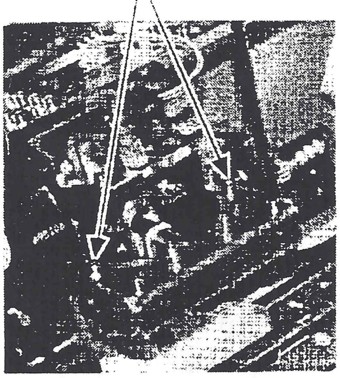
EXTENSION SPRING
HOT-3107X

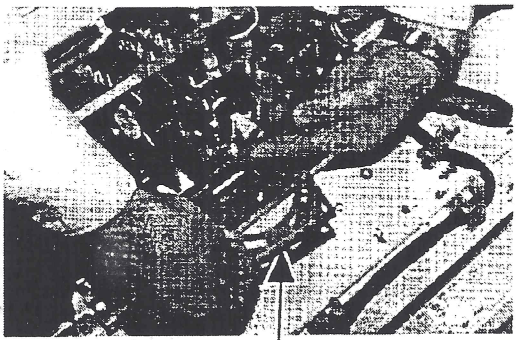


3. By using the narrow edged screwdriver, unclip and remove the two E-Rings.

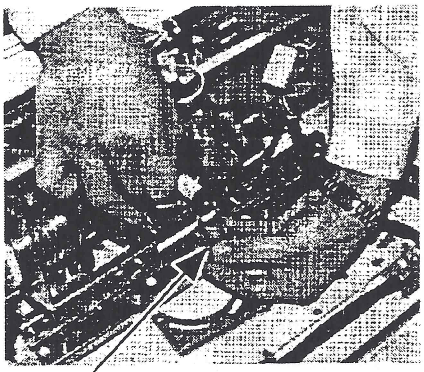


4. Take out the four screws and remove the guide plate.





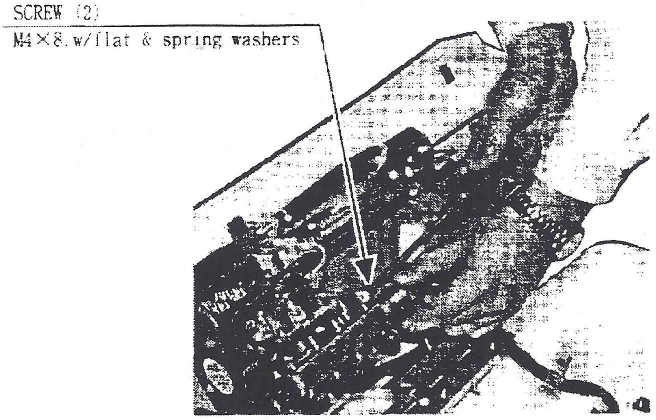
5. Remove the two pins. Use care so as not to lose the collar.
6. Remove the two E-Rings and the spring.



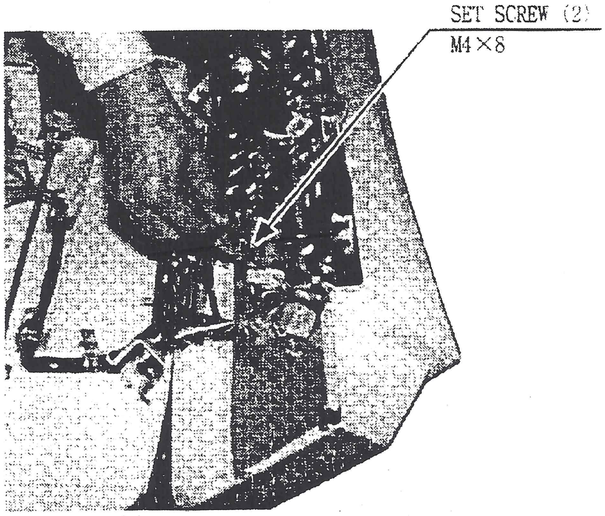
7. Replace the Spring. By referring to the ASSY DRAWING HOT-3100, install the Spring, E-Ring, Washer, etc. in the correct sequential order.

6.3 REPLACING THE TORSION SPRING

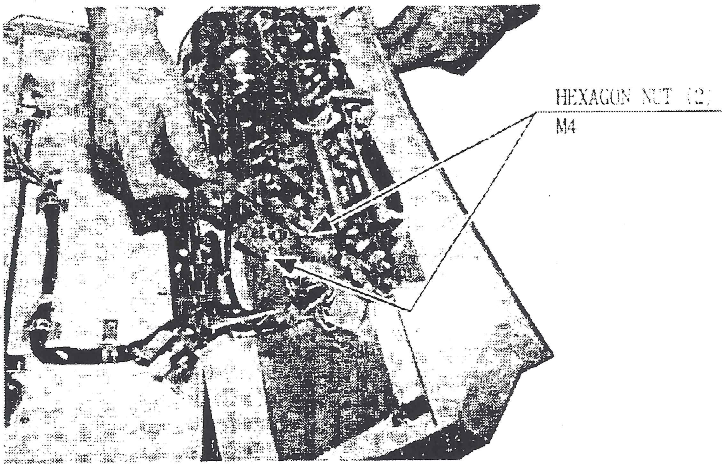
1. Turn off the power and open the Control Panel.
2. Take out the two screws and remove the volume and its bracket.



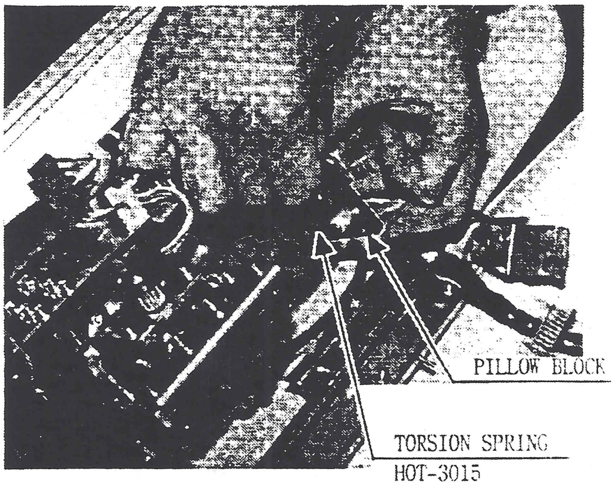
3. Take out the two set screws and remove the gear.



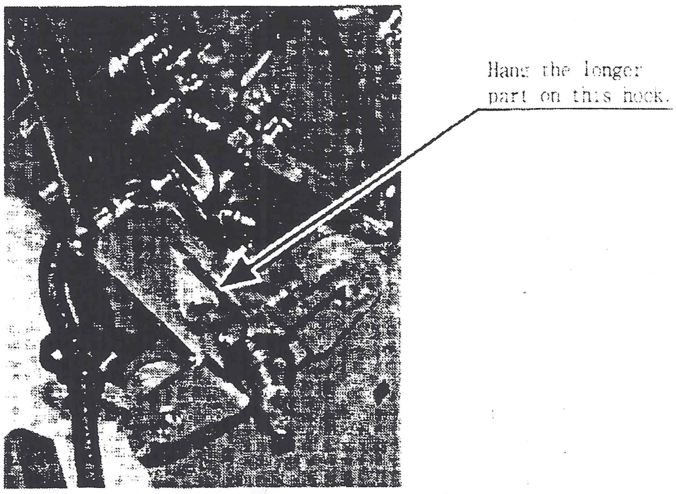
4. Take out the two hexagon nuts and remove the Pillow Block and Torsion Spring.



5. Remove the Pillow Block from the shaft in a straight movement to ease removal and avoid damaging the opposite shaft.



6. Replace the Spring, ensuring the longer portion of the spring is towards the control panel centre.
7. Reassemble in reverse order.

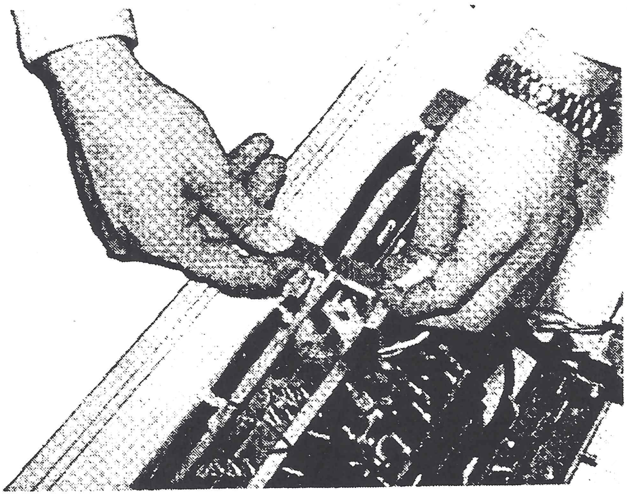


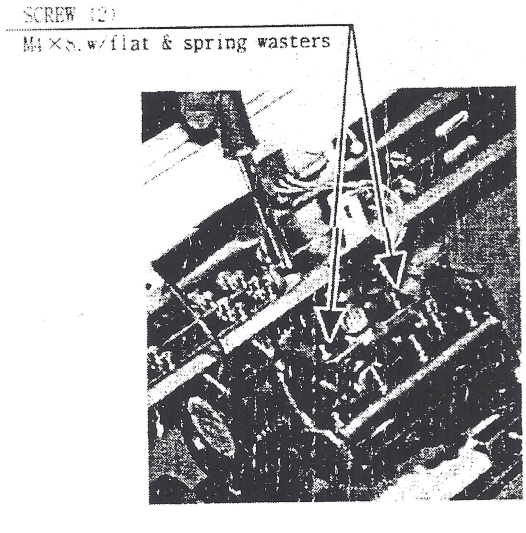
6.4 REPLACING THE VOLUME

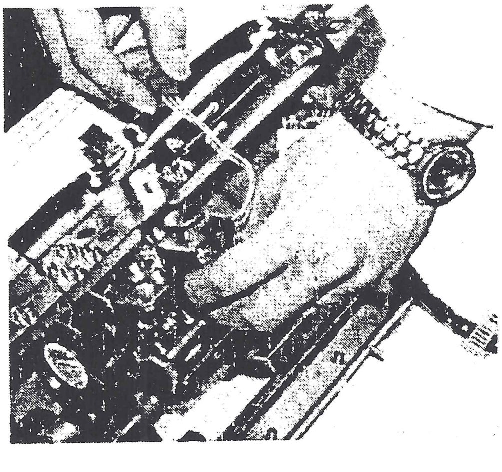
If it is found in the TEST mode that the values of ROD X and ROD Y don't match the rod operation, the cause may be meshing failure of the volume gear or volume damage, etc. Follow the procedure to replace the X volume: for the Y volume, the previous procedure REPLACING THE TORSION SPRING should be referred to.

Tools needed are Phillips screwdriver to suit M4 screw and a flat blade screwdriver for M3 cheese head.

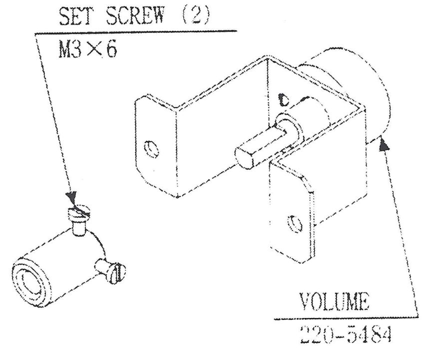
1. Turn off the power and open the control panel.
2. Disconnect the volume connector block. The red connector is the X volume, the blue one is the Y volume.
3. Take out the two screws and remove the volume and its bracket.







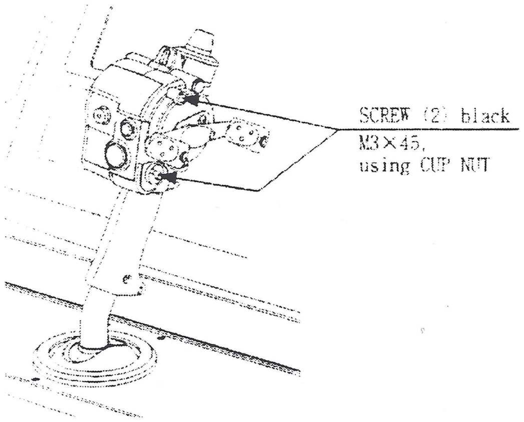
4. Take out the two set screws and remove the gear.
5. Replace the volume. Assemble in reverse order, ensuring that when the Rod is in its central position, the gears are engaged such that there is equal travel in either direction.
6. Turn on the power and set the volume in TEST mode.

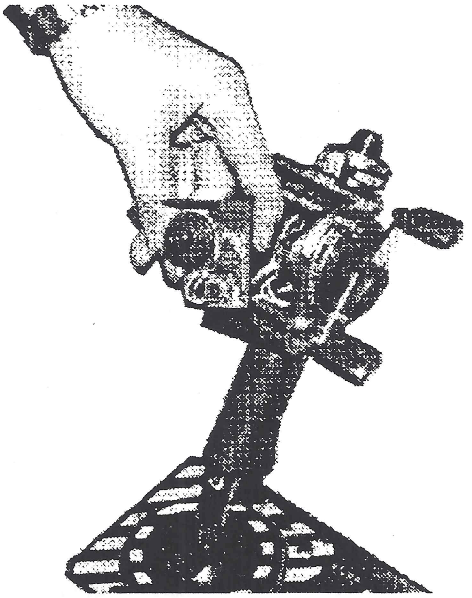


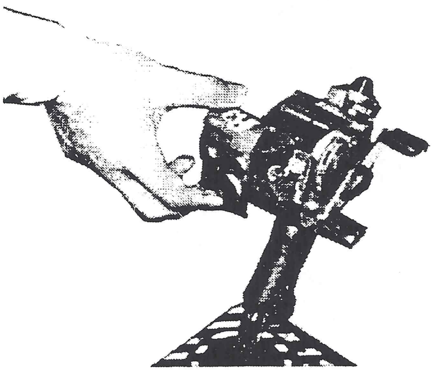
6.5 REPLACING THE INTERNAL PARTS OF THE REEL

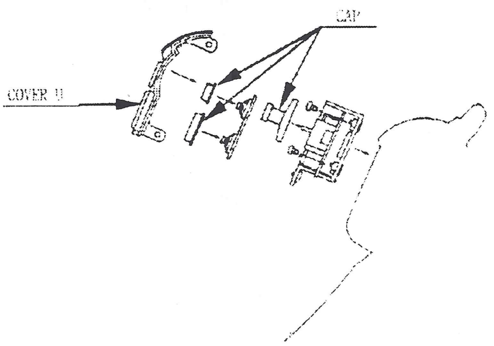
Tools needed: Phillips screwdriver for M3 screw.

1. Turn the power off.
2. Take out two screws and remove Cover U
3. Internal switch, etc. can be removed.

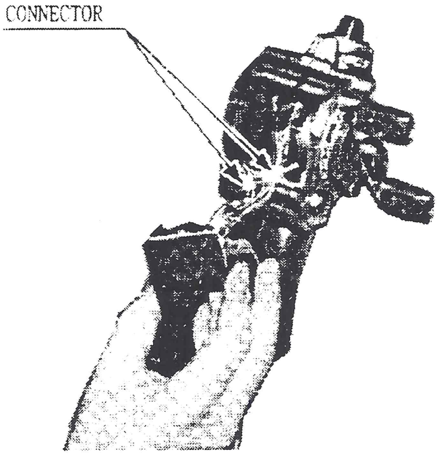








4. Remove the connector and replace the board.
5. Assemble in reverse order.
6. Turn on the power and set the volume in TEST mode.



7. MAINTENANCE INSTRUCTIONS

The following items are peculiar to SEGA MARINE FISHING and should be checked at the specified intervals. For other maintenance items, please refer to the Naomi Cabinet manual, 420-6455-01UK.

ITEMS	DESCRIPTION	INTERVAL	REFERENCE
Game Board	Memory test Setting check	Monthly Monthly	Naomi Cabinet Manual 5
Rod (controller)	Switch/volume inspection Grease Gear Mesh & sliding parts	Monthly Monthly	5 6.1
ALL OTHER ITEMS	-	-	REFER TO NAOMI CABINET MANUAL

7.1 Cleaning the cabinet surfaces

When the cabinet surfaces are badly soiled, remove stains with a soft cloth dipped in water or chemical detergent (diluted with water) and squeezed dry - DO NOT USE A WATER JET. To avoid damaging surface finish, do not use such solvents as thinner, benzene, etc. (other than ethyl alcohol), abrasives or bleaching agents.

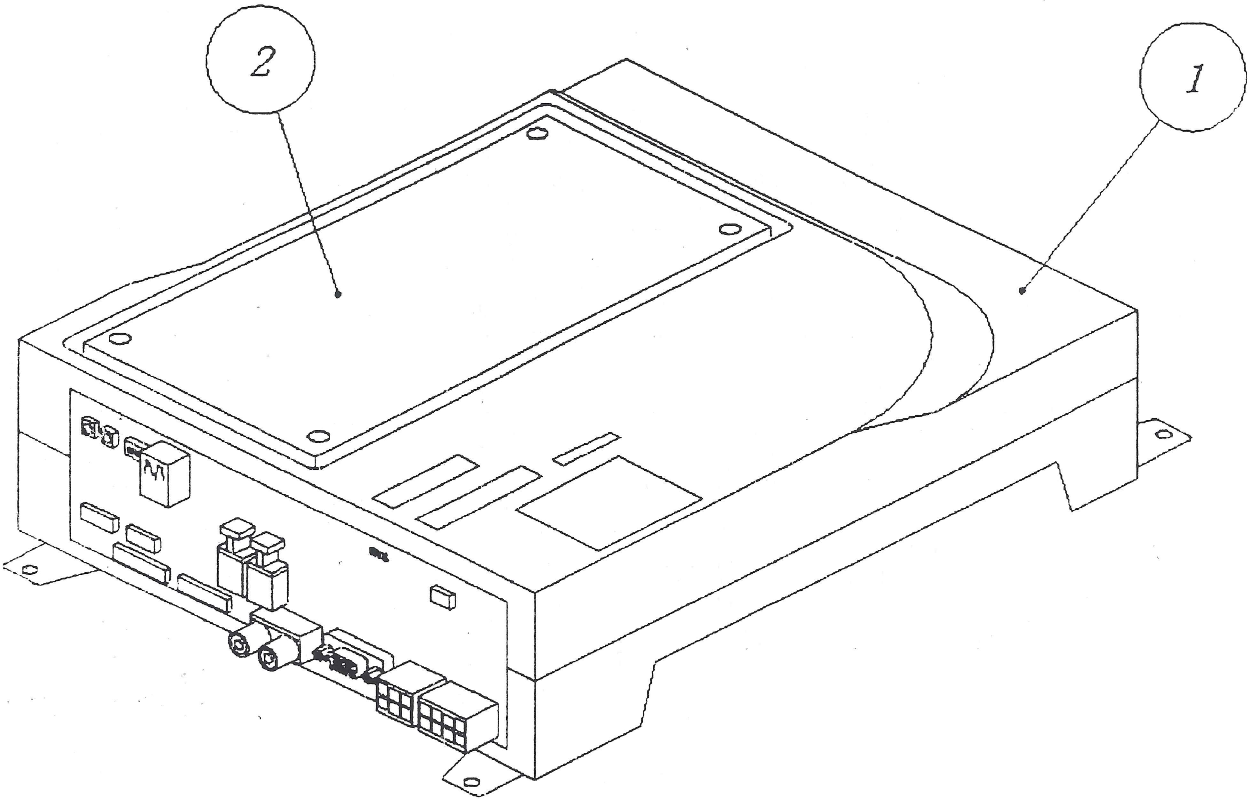
8. TROUBLESHOOTING

The following items are peculiar to SEGA MARINE FISHING and should be checked at the specified intervals. For other troubleshooting items, please refer to the Naomi Cabinet manual, 420-6455-01UK.

PROBLEM	CAUSE	COUNTERMEASURES
Rod Controller does not function	Poor connection	Firmly reconnect the connectors between the I/O Board and the Driver Unit or Rod Controller
	Failure of the motor and/or Clutch	Replace the motor and/or Clutch
	Failure of the Driver Unit	Contact your dealer or distributor
Rod Controller functions or responds abnormally	Incorrect installation of the Tension Volume on the Control Panel	Reinstall the Tension Volume correctly (Section 6)
	Incorrect setting of the Tension Volume	Reset the volume (Section 5)
	Failure of the Tension Volume	Replace (Section 6)
Rod Controller does not respond	Poor connection	Firmly reconnect the connectors between the I/O Board and the Driver Unit or Rod Controller
Stick on Rod Controller does not function normally	Poor connection	Firmly reconnect the connectors between the I/O Board and the Control Board
	Incorrect setting of the Tension Volume	Reset the volume (Section 5)
	Failure of the Stick Control Board	Replace (Section 6)
Reel handle does not function normally	Poor connection	Firmly reconnect the connectors between the Driver Unit or Rod Controller
	Failure of the Encoder	Replace
Reel handle receives no load	Poor connection	Firmly reconnect the connectors between the Driver Unit or Rod Controller
	Failure of the Brake	Replace
Machine freezes	Voltage dip or interrupt	Turn machine off. Wait at least 30 seconds and turn machine on.

9. GAME BOARD

- Static electricity discharges can damage electronic parts on the IC Board. Take proper anti-static precautions before opening the Shield Case Lid and starting work. Be sure to touch grounded metallic surfaces to discharge any static electricity.
- Do not expose the Game Board so as to avoid causing an accident or malfunctioning.
- When replacing the Game Board, refer to the NAOMI SERVICE MANUAL.

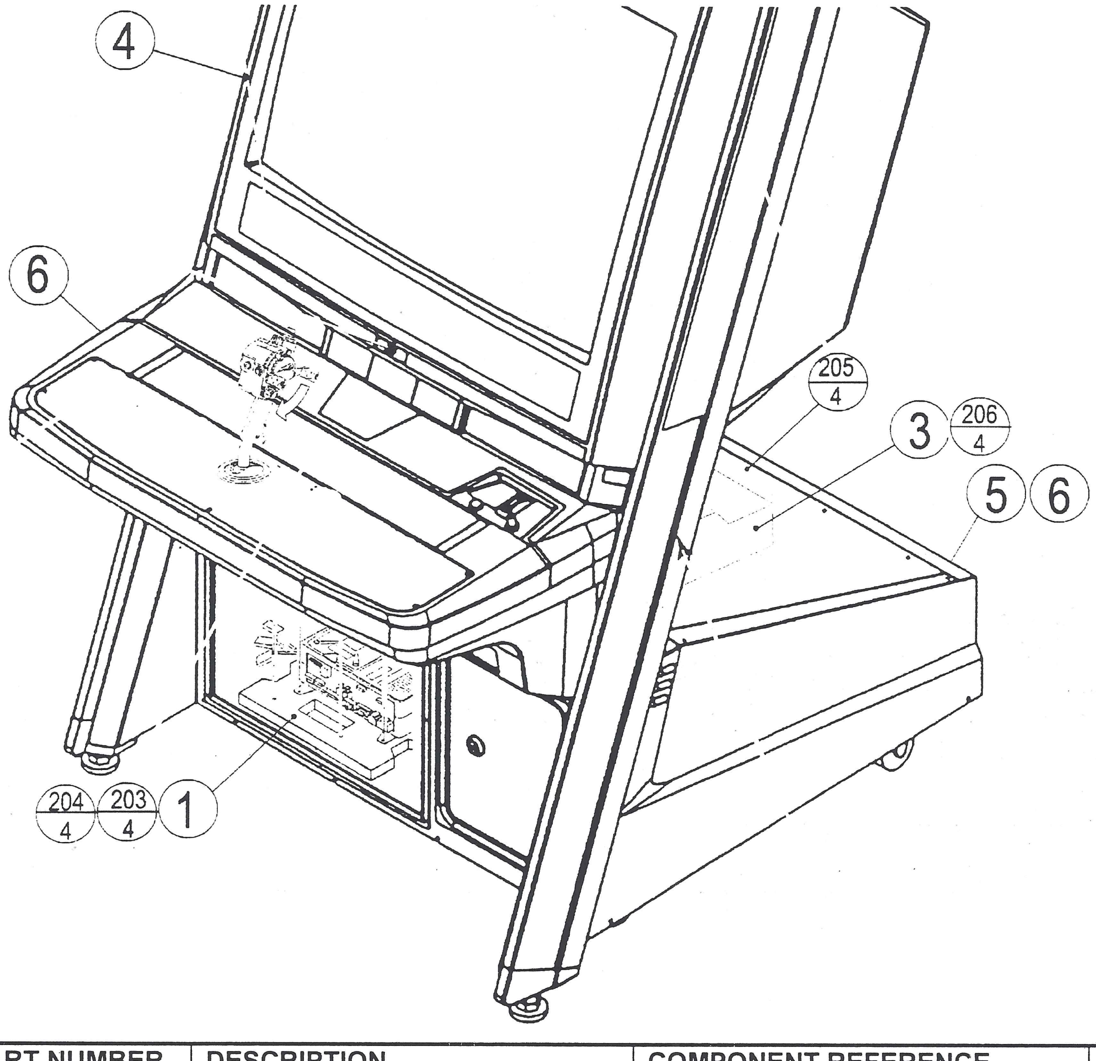


	PART NO.	DESCRIPTION
ASSY CASE (①+②)	840-0027D-02	ASSY CASE NAO MFS EXP
① ASSY CASE NAOMI MAIN BOARD ② ROM CASE		

10. PARTS LIST

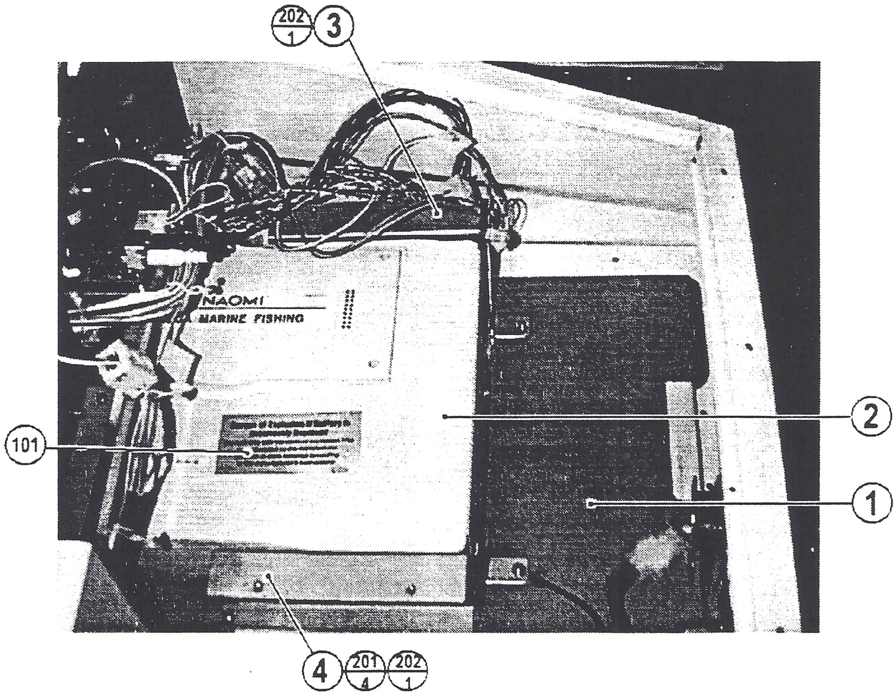
The parts not listed below are generic Naomi Cabinet parts. Please refer to SERVICE MANUAL NAOMI COM 420-6455-01UK for details on generic parts.

10.1 MFS-00001UK TOP ASSY MARINE FISHING U/R



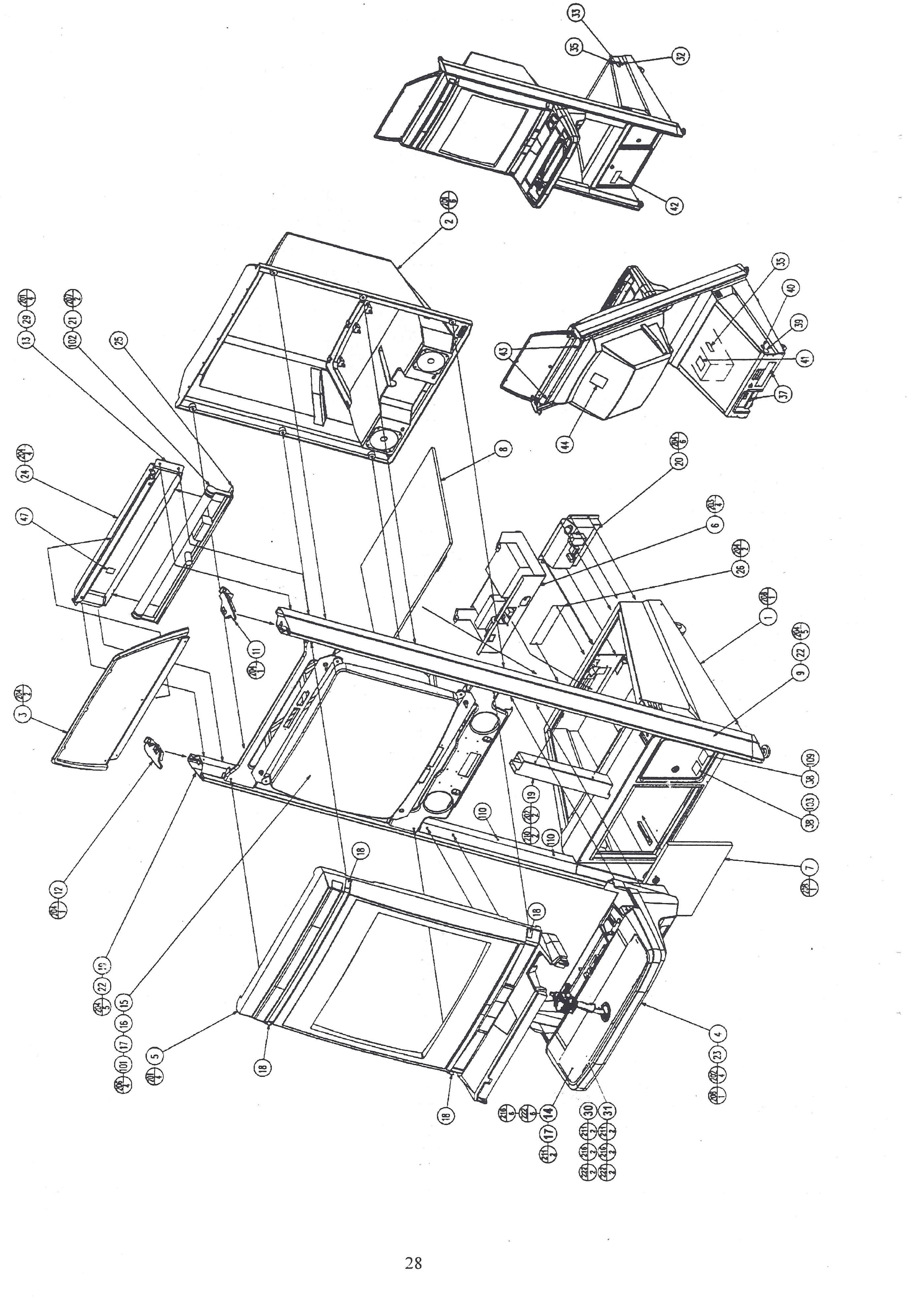
No.	PART NUMBER	DESCRIPTION	COMPONENT REFERENCE	QTY
1	MFS-0100UK	ASSY MAIN BD MFS NAOMI		1
2	MFS-INST	INST KIT MFS NAOMI (NANAO)		1
3	HOT-4500-UL	DRIVER UNIT		1
4	MFS-10001UK	ASSY CABINET MFS NAOMI		1
5	421-7987-MFS-U	STICKER ELEC SPEC MFS UK	NEXT TO AC BRKT	1
6	421-7988-91UK	STICKER SERIAL NUMBER UK	NEXT TO AC UNIT, INSIDE C.PNL	2
7	PK0121	POLY COVER 750X1100X1800		1
8	PK0201	PALLET NOB U/R		1
9	PK0239	SLEEVE MFS U/R		1
101	LB1046	LABEL TESTED FOR ELEC. S		1
203	032-000425	M4X25 BLT WING PAS	(1)-2	2
204	FX0301	M4 WSHR 16OD FLT BZP	(1)-2	2
205	008-T00412-OC	M4X12 MSCR TMP PRF CRM	REAR HATCH-4	4
206	000-P00412-W	M4X12 MSCR POSI PAN W/FS	(3)-4	4

10.2 MFS-0100UK ASSY MAIN BD MFS NAOMI



No.	PART NUMBER	DESCRIPTION	COMPONENT REFERENCE	QTY
1	NOA-0001UK	WOODEN BASE MAIN		1
2	840-0027D-02	ASSY CASE NAO MFS EXP		1
3	MFS-0101UK	CONTROL BOARD BRACKET L		1
4	MFS-0102UK	CONTROL BOARD BRACKET R		1
101	LB1101	STICKER WARNING BATTERY		1
201	000-P00416-W	M4X16 MSCR POSI PAN W/FS	(4)-4	4
202	FX0163	N8X1/2" S/TAP POSI FLG B	(3)-1,(4)-1	2
301	MFS-61008UK	WIRE HARN DRIVE BD 5V EX		1
302	MFS-61009UK	WIRE HARN SW REGU/DRV BD		1
306	NOB-60203UK	WIRE HARN EMC EMISSIONS	G/BOARD FOOT TO XFMR	1

10.3 MFS-10001UK ASSY CABINET MFS NAOMI

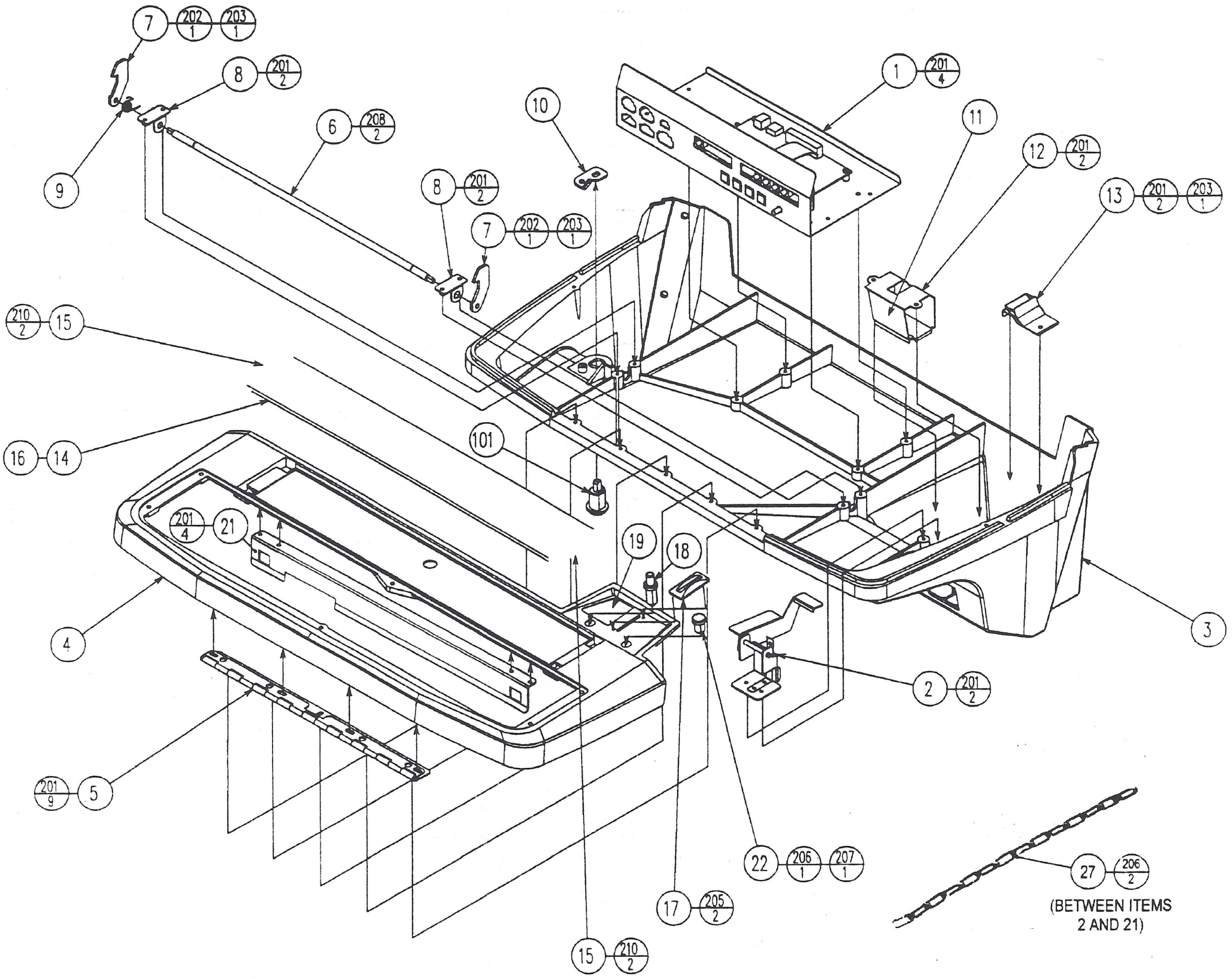


Assemblies prefixed NOA- and NOB- are generic assemblies. Details on these can be found in SERVICE MANUAL NAOMI COM, part no. 420-6455-01UK.

No.	PART NUMBER	DESCRIPTION	COMPONENT REFERENCE	QTY
1	NOB-1100UK	ASSY FRAMEWORK UR		1
2	NOA-1200	ASSY CRT COVER		1
3	NOA-1300	ASSY BILLBOARD		1
4	MFS-1400UK	ASSY CONTROL BOX MFS		1
5	NOA-1500UK	ASSY FRONT PANEL		1
6	NOA-4000UK	ASSY ELEC		1
7	NOA-1750UK	ASSY SERVICE DOOR		1
8	NOA-1801UK	REAR HATCH	FIX DOWN AT TOP ASSY	1
9	NOB-1001UK	FRAME COVER UR R		1
10	NOB-1002UK	FRAME COVER UR L		1
11	NOA-1003	ENDCAP R		1
12	NOA-1004	ENDCAP L		1
13	NOA-1005UK	REAR COVER UPPER		1
14	HOT-3200-01UK	ASSY FISHING CTRL PNL NO		1
15	280-6617	BUSH FOR TV LONG	(101)-4	4
16	280-5113	COLLAR FOR NANAO MONITOR	(101)-4	4
17	HOT-3080	ASSY VOLUME	FIT AFTER (14)	1
18	NOA-1006	SCR CAP		4
19	NOB-1007	COIN CHUTE UR		1
20	NOB-1700UK	ASSY AC UNIT		1
22	NOA-1008	STICKER SIDE		2
23	NOA-1009	WSHR PLATE	(4)-2	2
24	NOA-1010UK	BILLBD HOLDER		1
25	NOA-1011	FL BRKT		1
26	NOA-1116	LID COMMUNI PORT		1
27	NOB-4100UK	ASSY XFMR		1
28	NOB-1013	STICKER SIDE LINE NOB		2
29	NOB-1117UK	WATER GUARD CE		1
30	MFS-2001UK	SUPPORT BRACKET A	BETWEEN CP & LOCK BRKT	1
31	MFS-2002UK	SUPPORT BRACKET B	BETWEEN CP & LOCK BRKT	1
37	421-7020UK	STICKER CAUTION FORK	AT BACK OF BASE BOX	2
41	LB1102	STICKER DANGEROUS VOLTAG	BASE LID,DOOR,CRT,FL,CP COVERS	5
42	LB1104	STICKER CAUTION, HOT SUR	FL COVER	1
101	200-5927	ASSY CLR DSPL 29TYPE 31K		1
102	390-5695-40-CUK	FL TRAY 110V 40W (T12)		1
103	220-5643UK	COIN METER SMALL 12V	CLIP-IN	1
114	390-5695-40-DUK	FL TUBE 40W 600L 1.5"DIA		1
115	OS1098	CRIMP BELL END SMALL	(103)-2	2
116	280-A02048-PM	ROUTER TWIST D20 SO4.8 P		5
117	280-A02000-A	ROUTER TWIST D20 ADH		4
118	280-A01248-PM	ROUTER TWIST D12 SO4.8 P		12
119	280-A01200-A	ROUTER TWIST D12 ADH		3
120	280-A00900-A	ROUTER TWIST D9 ADH		2
121	OS1230	FOAM STRIP 2mm X 10mm	2X0.59M TO 8	1.18
122	OS1174	CABLE TIE, NYLON 100mm	10-(29)	10
201	008-T00625-OC	M6X25 MSCR TMP PRF TH CR	(2)-6,(5)-4,(13)-4	14
202	030-000620-S	M6X20 BLT W/S PAS	(4)-4,(19)-2	6
203	FX0021	M4X8 MSCR POSI PAN BZP	FL TUBE CLIPS - 2	2
204	008-T00412-OC	M4X12 MSCR TMP PRF CRM	SEE EXTENDED TEXT FOR C. REF	30
206	FX0013	M6 NUT FLG SER BZP	(101)-4	4

208	008-T00430-0C	M4X30 MSCR TMP PRF TH CR	TNG STOPPER CP & REAR LID	2
209	030-000630-S	M6X30 SET W/S PAS	(27)-4	4
210	FX0251	M6 WSHR 16OD FLT BZP	(27)-4	4
211	000-P00408-W	M4X8 MSCR POSI PAN W/FS	(17,25,30,31)-2EA,EARTH-4	12
214	000-P00416-W	M4X16 MSCR POSI PAN W/FS	(5)-2,(11)-1,(12)-1	4
215	FX0012	M6 WSHR 25OD FLT BZP	(101)-4	4
216	050-F00400	M4 NUT FLG	(14)-6,(30,31,102)-2EA,EARTH-3	15
217	FX0302	M5 NUT FLG SER BZP	FRAME EARTHS - 3	3
218	010-P00408	M4X8 TAPTITE POSI PAN	(6)-4	4
219	FX0009	M4 WSHR FORM A FLT BZP	(6)-4	4
220	000-P00612-W	M6X12 MSCR POSI PAN W/FS	(323)-1	1
221	FX0302	M5 NUT FLG SER BZP	(323)-1	1
222	031-000416-OC	M4X16 CRG BLT CRM	(14)-6,(30)-2,(31)-2	10
301	MFS-6001UK	ASSY WIRE L		1
302	NOB-6002UK	ASSY WIRE R		1
311	600-7159-070	WIRE HARN JVS PWR 070CM		1
312	600-7141-250	CABLE JVS TYPE A-B 250CM		1
313	600-7009-2500	ASSY RGB CA D-SUB 15P 25		1
319	600-9010-44K	WIRE HARN EARTH 100mm M4	BBOARD HOLDER TO FL BASE	1
320	NOB-60201UK	WIRE HARN FL NOB		1
321	600-9070-45K	WIRE HARN EARTH 700mm M4	BASE LID TO XFMR	1
322	600-9080-45K	WIRE HARN EARTH 800mm M4	BASE TO RH FRAME (BOTTOM)	1
323	600-9025-56U	WIRE HARN EARTH 250mm M5	MONITOR CHASSIS TO RH FRAME	1
324	600-9050-44K	WIRE HARN EARTH 500mm M4	CP BASE TO I/O BD- REPLACE SOJ	1
325	MFS-61006UK	WIRE HARN CONTRL PANL		1
326	MFS-61007UK	WIRE HARN CNTRL PANL MOTOR		1

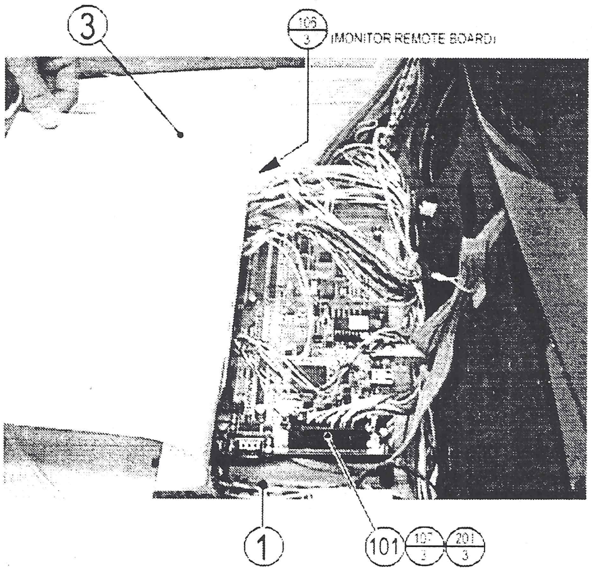
10.4 MFS-1400UK ASSY CONTROL BOX MFS



No.	PART NUMBER	DESCRIPTION	COMPONENT REFERENCE	QTY
1	MFS-1450UK	ASSY I/O UNIT MFS		1
2	NOA-1480UK	ASSY COIN MECH		1
3	NOA-1401	CONTROL BOX LOWER		1
4	NOA-1402	CONTROL BOX UPPER		1
5	CQN-1055X	HINGE		1
6	NOA-1403	SHAFT		1
7	HOT-1520	LATCH N		2
8	HOT-1504	LATCH HOLDER		2
9	NOA-1404	TOR SPRING		1
10	HOT-1505UK	LKG TNG	(101)-1	1
11	NOA-1405	FLAP		1
12	NOA-1406X	REJECT COVER		1
13	NOA-1407UK	TRANSIT CHUTE UK		1
14	HOT-1508	INSTRUCTION COVER		1
15	NOA-1419	BRKT INST COVER	(14)-2	2
16	NOA-1420	L WASHER	(15)-4	4
17	220-5428UK	COIN ENTRY CE		1
18	250-5043	REJECT BUTTON ASSEMBLY		1
19	NOA-1412	STICKER DENOMI BLANK FOR		1
20	NOA-1414	LID TRANSIT CHUTE		1
21	MFS-1415UK	LOCK BRACKET MFS U/R		1
22	NOA-1418	DUMMY BTN		1
23	421-10064UK	STICKER I/O UNIT		1

25	NOB-1417UK	ACCEPTOR BRKT		1
26	EP1380	CREDIT BOARD EXCEL		1
27	MFS-2003UK	CHAIN 335	FIT BETWEEN (2) & (21)	1
101	220-5575UK	LOCK		1
102	280-A00900-A	ROUTER TWIST D9 ADH		3
103	280-A01200-A	ROUTER TWIST D12 ADH	(UNDER ITEM 25)-1	4
104	280-A02000-A	ROUTER TWIST D20 ADH		3
105	280-L01640-PS	STANDOFF 16mm 4mm PANEL	(25)-4	4
106	837-13844	I/O CONTROL BD 2 FOR JVS	FIT AFTER (1)	1
201	000-P00410-W	M4X10 MSCR POSI PAN W/FS	1,8,16,21-4 12,24-2 5-9 2,22-1	31
202	FX0212	M6 NUT BZP	(7)-2	2
203	FX0255	M6 WSHR SPR BZP	(7)-2	2
204	000-P00320-W	M3X20 MSCR POSI PAN W/FS	(106)-4	4
205	FX0432	N8X3/8" S/TAP POSI FLG B	(17)-2	2
206	000-P00412-W	M4X12 MSCR POSI PAN W/FS	USE TO FIX (27) TO (2) & (21)	2
207	FX0301	M4 WSHR 16OD FLT BZP	(22)	2
208	FX0245	M5 WSHR FORM A FLT BZP	(17)-1 REAR ONLY	1
209	065-E00600	E RING 6MM	(6)-2	2
301	NOB-60101UK	WIRE HARN COIN NOB		1

10.5 MFS-1450UK ASSY I/O UNIT MFS



No.	PART NUMBER	DESCRIPTION	COMPONENT REFERENCE	QTY
1	MFS-1451UK	I/O BASE		1
3	NOA-1117UK	WATER GUARD	(1)-1	1
101	838-13739	SW BD NAOMICABINET		1
102	280-A02048-PM	ROUTER TWIST D20 SO4.8 P		1
103	280-A01248-PM	ROUTER TWIST D12 SO4.8 P		5
104	280-A00900-A	ROUTER TWIST D9 ADH		2
106	280-L00940-PM	STANDOFF 9L 4mm HOLE PAN	(MONITOR REMOTE BOARD)-3	3
107	280-L00709-OS	STANDOFF 7OD 4ID 9L	(101)-3	3
201	000-P00320-W	M3X20 MSCR POSI PAN W/FS	(101)-3	3
301	MFS-61002UK	WIRE HARN I/O BOARD MFS		1
302	MFS-61003UK	WIRE HARN I/O VOLUME		1
304	NOA-60023	WIRE HARN I/O BD PWR		1
305	NOA-60024	WIRE HARN SPEAKER L		1
306	NOA-60025	WIRE HARN SPEAKER R		1

10.6 MFS-6001UK ASSY WIRE L

No.	PART NUMBER	DESCRIPTION	COMPONENT REFERENCE	QTY
301	NOB-60043	WIRE HARN PWR I/O BD		1
302	NOB-60044	WIRE HARN SOUND VOL		1
303	NOB-60045	WIRE HARN SPEAKER L		1
304	NOB-60046	WIRE HARN SPEAKER R		1
305	600-7158-0100	CA AUDIO RCA TO RCA 2CH		1
306	600-9075-45K	WIRE HARN EARTH 750mm M4	I/O BASE TO LH FRAME (TOP)	1
307	600-9055-45K	WIRE HARN EARTH 550mm M4	BASE TO LH FRAME (BOTTOM)	1
308	MFS-61001UK	WIRE HARN MOTOR PWR		1
309	MFS-61004UK	WIRE HARN ENCODER EXT		1
310	MFS-61005UK	WIRE HARN CLUTCH & BRAKE		1

10.7 MFS-INST INST KIT MFS NAOMI (NANAO)

No.	PART NUMBER	DESCRIPTION	COMPONENT REFERENCE	QTY
1	422-0812-01	PLAY INSTR SH MFS STD EN		1
2	422-0813-01	SUB INSTR SH MFS STD ENG		1
3	429-0685	DISPLAY CARD MFS		1
6	SAECE-056	DECLARATION OF CONFORMIT		1
7	PK0240	INST KIT BOX MFS U/R		1
8	OS1019	SELF SEAL BAG 9X12.3/4		2
9	421-MFS	STICKER MARINE FISHING	(7)-2	2
12	220-5086-BUK	COIN SW BRKT		1
101	540-0006-01	WRENCH M4 TMP PRF		1
102	540-0015-01	WRENCH M6 TMP PRF		1
103	514-5078-5000	FUSE 5X20 CERAMIC SB 500	SPARE	1
105	220-5484	VOL CONT B-5K OHM	SPARE	1
106	509-COIN-NOB	SW MICRO COIN ROUTE 0.25		1
202	FX0032	M3X20 MSCR POSI PAN BZP	(106)	2
302	600-7141-250	CABLE JVS TYPE A-B 250CM	SPARE	1
303	600-7175-01	WIRE HARN VMS 1P	SPARE	1
304	600-7175-02	WIRE HARN VMS 2P	SPARE	1
401	420-6455-01UK	SERVICE MANUAL NAOMI COM		1
403	420-5927	SERVICE MANUAL NANAO FST		1
404	420-6455-MECH	INSTRUCTION SHEET MECH'L		1
405	420-6574-01UK	SERVICE MANUAL MFS STD E		1

11. ELECTRICAL SCHEMATIC

The following 2 pages detail the electrical connections for this machine

THE WIRE COLOUR CODE IS AS FOLLOWS:

A	PINK
B	SKY BLUE
C	BROWN
D	PURPLE
E	LIGHT GREEN

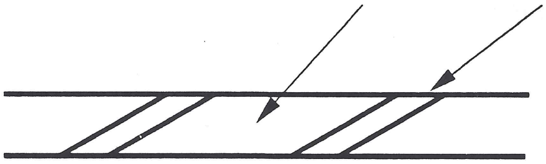
Wires other than those of any of the colours listed above will be displayed by 2 alphanumeric characters:

1	RED
2	BLUE
3	YELLOW
4	GREEN
5	WHITE
7	ORANGE
8	BLACK
9	GREY

If the right hand side numeral of the code is 0, then the wire will be of a single colour shown by the left hand side numeral (see the list above).

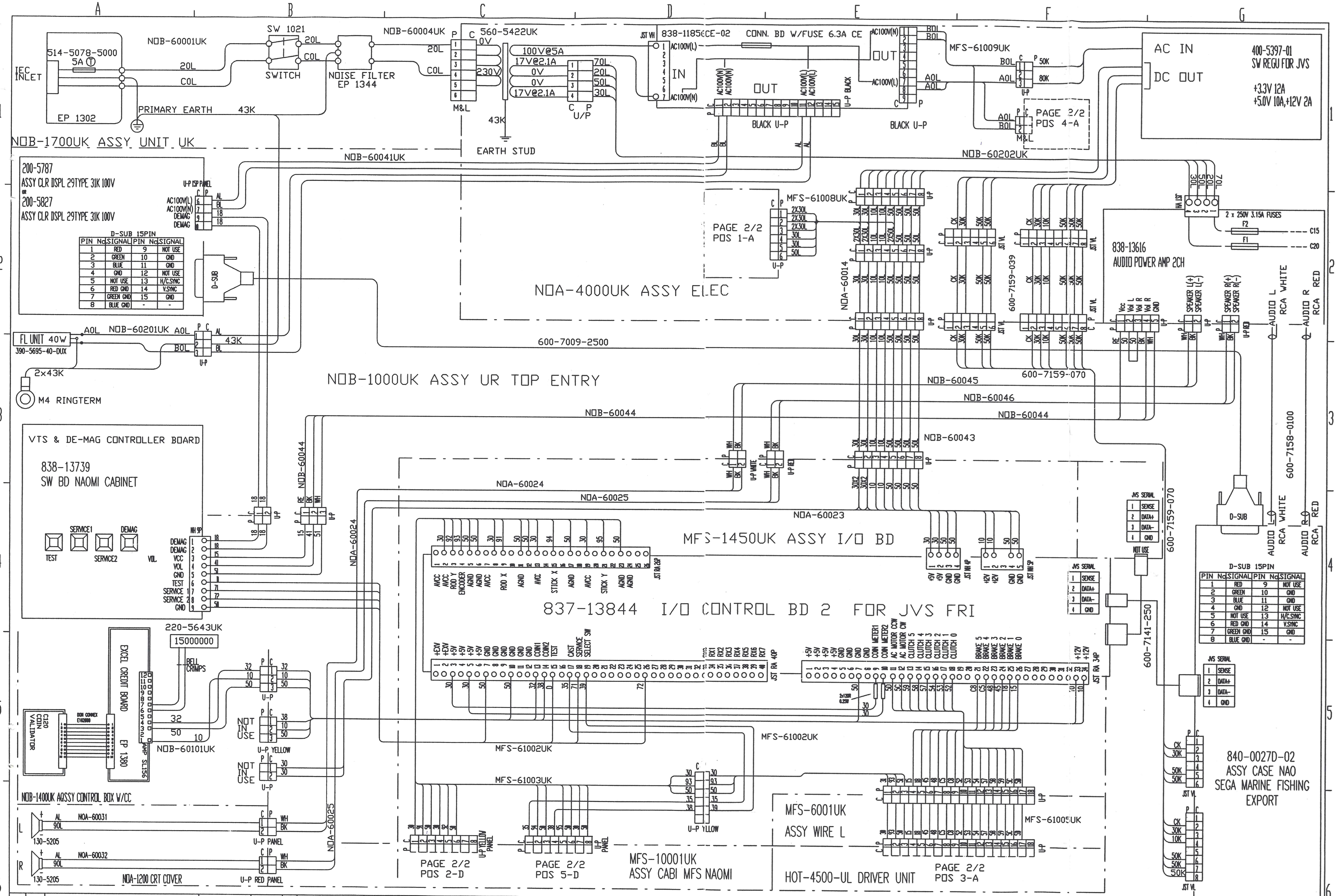
Note 1: If the right hand side alphanumeric is not 0, that particular wire has a spiral colour code. The left hand side character shows the base colour and the right hand side one, the spiral colour.

[Example] 51------------- WHITE/RED = WHITE wire with RED stripes



Note 2: The character following the wire colour code indicates the size of the wire.

K:	AWG18, UL1015
L:	AWG20, UL1007
None	AWG22, UL1007



8	BLACK	E	LIGHT GREEN
7	ORANGE	D	PURPLE
5	WHITE	C	BROWN
4	GREEN	B	SKY BLUE
3	YELLOW	A	PINK
2	BLUE	9	GRAY
1	RED		

WIRE COLOR

43	EARTH WIRE
U	AWG16 UL1005
I	AWG18 UL1015
K	AWG20 UL1007
L	AWG22 UL1007

MFS-00001UK

DRAWN	CHECKED	D.CHECKED	APPROVED
GC		MT	
14/02/00		23/03/00	

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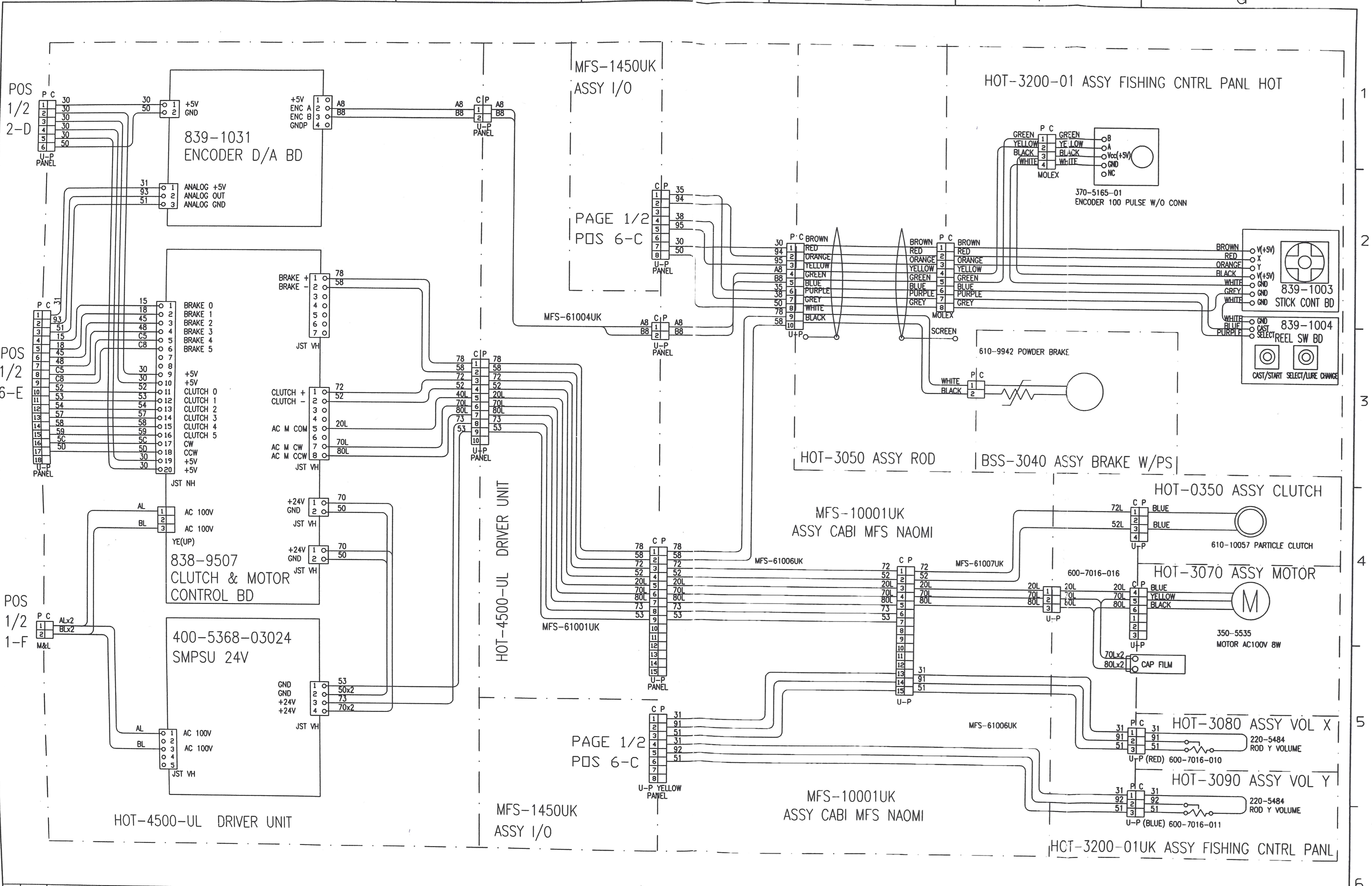
MARINE FISHING UK

MFS 1/3



ALTERATION

8	BLACK	E	LIGHT GREEN
7	ORANGE	D	PURPLE
5	WHITE	C	BROWN
4	GREEN	B	SKY BLUE
3	YELLOW	A	PINK
2	BLUE	9	GRAY
1	RED		

WIRE COLOR

50L	WHITE AWG20
51	WHITE RED
50	WHITE
EXAMPLE	
U	AWG16 UL1015
K	AWG18 UL1015
L	AWG20 UL1007
	AWG22 UL1007

USED ON ASSY: MFS-00001UK (TOP-ASS'Y)

DRAWN	CHECKED	D CHECKED	APPROVED
GC		MT	
15/02/00		23/03/00	

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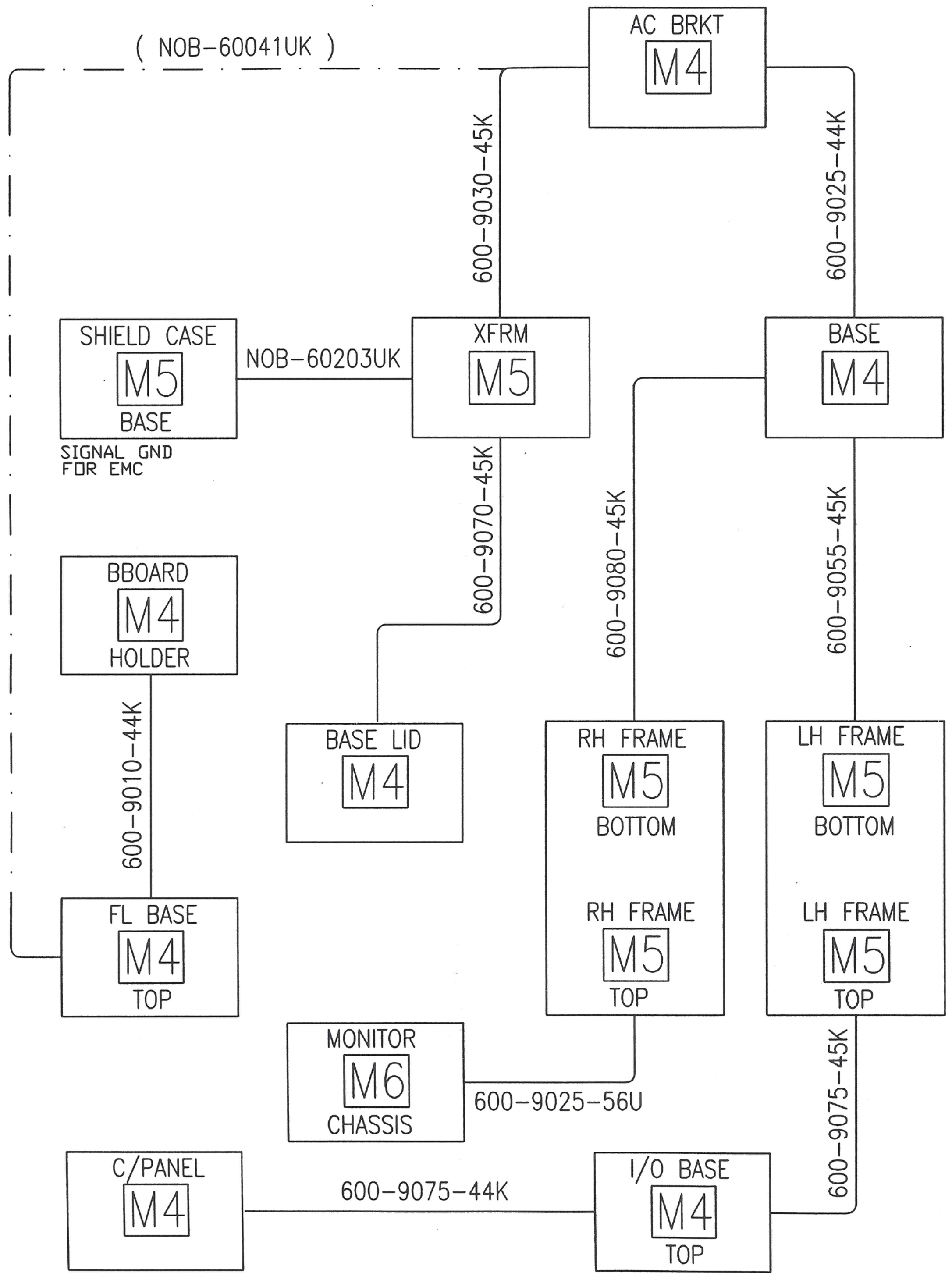
DESCRIPTION: MARINE FISHING UK

DIAGRAM No.: MFS 2/3

EARTH MAP & CODE



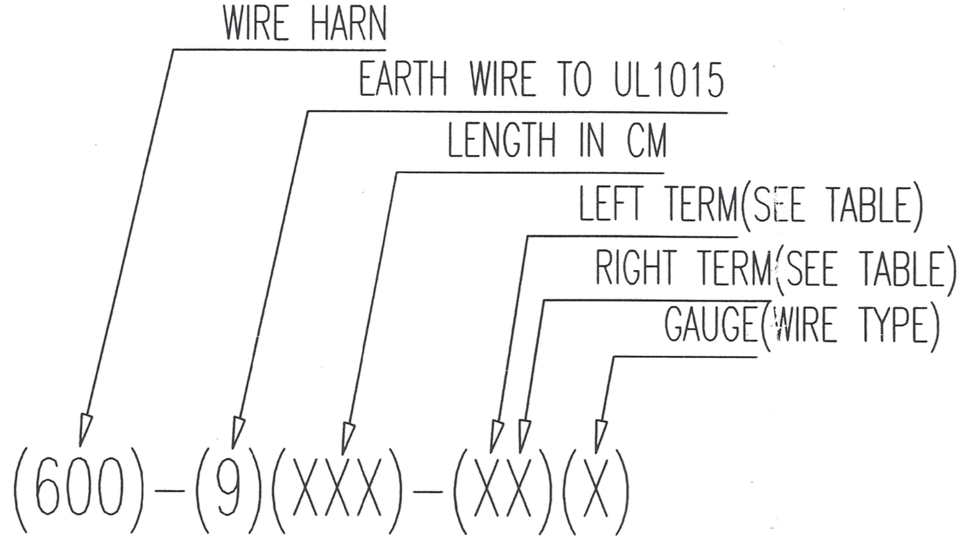


TABLE OF TERMINALS CODE

1		A	0.110" FASTON 0.3mm TAB	M	AMP M&L SOCKET 350536-1
2		B	0.110" FASTON 0.5mm TAB	N	
3		C	0.110" FASTON 0.8mm TAB	P	
4	M4 RING TERM	D	0.187" FASTON 0.5mm TAB	R	
5	M5 RING TERM	E	0.187" FASTON 0.8mm TAB	S	
6	M6 RING TERM	F	0.250" FASTON 0.8mm TAB	T	
7		G	BOOTLACE SPLICE AMP 926933-2	V	
8	M8 RING TERM	H	BOOTLACE SPLICE AMP 925856-2	W	
9		J	AMP U/P PIN 175150-1	X	
		K	AMP U/P SOCKET 175152-1	Y	
		L	AMP M&L PIN 350687-1	Z	

TABLE OF WIRE GUAGE (TYPE)

L	20 AWG WIRE
K	18 AWG WIRE
U	16 AWG WIRE
R	15 AMP BRAID
S	25 AMP BRAID
T	60 AMP BRAID
V	90 AMP BRAID
W	15 AMP BRAID (INSULATED)
X	25 AMP BRAID (INSULATED)
Y	60 AMP BRAID (INSULATED)
Z	90 AMP BRAID (INSULATED)

ALTERATION

WIRE COLOR

8	BLACK		
7	ORANGE	E	LIGHT GREEN
5	WHITE	D	PURPLE
4	GREEN	C	BROWN
3	YELLOW	B	SKY BLUE
2	BLUE	A	PINK
1	RED	9	GRAY

50L	WHITE AWG20
51	WHITE RED
50	WHITE
EXAMPLE	
U	AWG16 UL1015
K	AWG18 UL1015
L	AWG20 UL1007
	AWG22 UL1007

USED ON ASSY: PTR-0000UK
TOP-ASS'Y

DRAWN	CHECKED	D CHECKED	APPROVED
MT			
14/03/C3			

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MARINE FISHING UK — DESCRIPTION

MFS 3/3 — DIAGRAM No.

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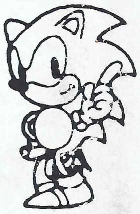

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